

REMARKS

This responds to the Office Action mailed on April 19, 2007 and further to the Notice of Appeal mailed July 19, 2007.

Claims 1, 6 and 11 are amended, no claims are canceled, and claims or added in this response; as a result, claims 1, 4-6, 9-11 and 14-18 remain pending in this application.

§102 Rejection of the Claims

Claims 1, 4-6, 9-11 and 14-18 were rejected under 35 U.S.C. § 102(b) for anticipation by Vishin et al. (US 5,860,146). Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). Applicant respectfully submits that claims 1, 4-6, 9-11 and 14-18 are not anticipated by Vishin does not disclose each and every element of Applicant’s claims.

For example, claim 1 as amended recites “loading the translation into a translation lookaside buffer (TLB) on the source node.” Claims 6 and 11 recite similar language. In view of the amendment to remove the conditional “if ...” language, Applicant reasserts the argument that Vishin does not disclose loading the translation in a TLB on the source node. The Office Action asserts that Vishin discloses the recited language at column 3, lines 40-60, stating “when the physical address does not correspond to a location in local memory, the RTLB determines whether the physical address matches at least one of the remote page table entries stored in the RTLB, and selects one of those remote page table entries when at least one match is found. Then, a remote physical address is generated by combining a portion of the selected remote page table entry with a portion of the physical address.” Applicant notes that neither the cited section, nor

Vishin as a whole, discloses loading the translation received as a result of querying an ERTT segment into a TLB on a source node. Rather, the cited section indicates that Vishin uses a RTLB to resolve a remote address. The memory at the remote address is then copied to a locally accessible memory location (see Vishin at column 3, lines 26-30). This is in contrast to Applicant's claim, which recites that the translation is placed in the TLB, thereby providing direct access to the actual remote node's live memory. Thus the operation of Vishin is different from Applicant's claim 1 and Vishin does not disclose each and every element of Applicant's claim 1.

Additionally, each of independent claims 1, 6 and 11 recite determining a virtual node to query based on the virtual address and further recites accessing an ERTT header to obtain a mapping of the virtual node to a physical node. In the Response to Applicant's arguments, the Office Action states that Vishin discloses a virtual node stating that "as far as users at the local node is concerned, those memory locations at the remote nodes are considered as "virtual addresses," and those remote nodes are considered as "virtual nodes"." Applicant respectfully disagrees. Applicant notes that while Vishin mentions virtual address translation, nowhere does Vishin mention the use of a virtual node. Rather, Vishin encodes a physical node ID 170 into a remote page table entry (see Vishin at column 6, line 61 to column 7, line 6, emphasis added). Thus Vishin does not disclose the use of a virtual node to provide increased flexibility in remote address translation. Just because a node is remote, does not mean the node is considered virtual rather than physical. The Office Action provides no reasoning or justification for the statement that a remote node is the equivalent of a virtual node.

The Office Action further states that element 170 of Fig. 7 provides virtual node information. Again, the node-id 170 is a physical node identifier and does not provide any mapping whatsoever from a physical node to a virtual node.

Further, as recited in Applicant's claims, a physical node is mapped to a virtual node. No such mapping is disclosed in Vishin. Under the reasoning of the Office Action, all "remote" nodes are virtual nodes and no mapping from physical to virtual would be required in Vishin.

In view of the above, Vishin does not anticipate claims 1, 6 or 11. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claim 1, 6 and 11.

Claims 4-5 and 16 depend either directly or indirectly from claim 1, claims 9-10 and 17 depend either directly or indirectly from claim 6, and claims 14-15 and 18 depend either directly or indirectly from claim 11. These dependent claims are therefore not anticipated by Vishin for at least the reasons discussed above regarding their respective base claims. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 4-5, 9-10 and 14-18.

Furthermore, claim 4 recites "locating the ERTT header at a well known location to one or more nodes used by an application." Claims 9 and 14 recite similar language. The Office Action states that RPPA 168 show an ERTT header. Applicant respectfully disagrees. RPPA 168 is included in every entry of RTL8 160. Thus RPPA 168 is not a header, rather it comprises several fields of every RTL8 entry. Further, RPPA 168 does not provide a physical node to virtual node mapping. Thus Vishin fails to anticipate claims 4, 9 and 14. Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 4, 9 and 14.

Additionally, claims 5, 10 and 15 recite that the ERTT header is located on predetermined virtual node. As discussed above, Vishin does not disclose a virtual node and does not disclose an ERTT header that maps virtual nodes to physical nodes. Thus Vishin fails to anticipate claims 5, 10 and 15. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 5, 10 and 15.

Moreover, claims 16-18 recite replicating the ERTT header on a plurality of physical nodes. As discussed above, Vishin does not disclose an ERTT header. Thus Vishin cannot disclose replicating an ERTT header on physical nodes. Thus Vishin does not anticipate claims 16-18. Applicant respectfully requests reconsideration and the withdrawal of the rejection of claims 16-18.

Reservation of Rights

In the interest of clarity and brevity, Applicant may not have addressed every assertion made in the Office Action. Applicant's silence regarding any such assertion does not constitute any admission or acquiescence. Applicant reserves all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference.

Applicant does not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicant timely objects to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicant reserves all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE

Serial Number: 10/643,588

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Title: SHARING MEMORY WITHIN AN APPLICATION USING SCALABALE HARDWARE RESOURCES

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CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 373-6954 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date February 19, 2008

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CERTIFICATE UNDER 37 CFR § 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop RCE, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 19th day of February, 2008.

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